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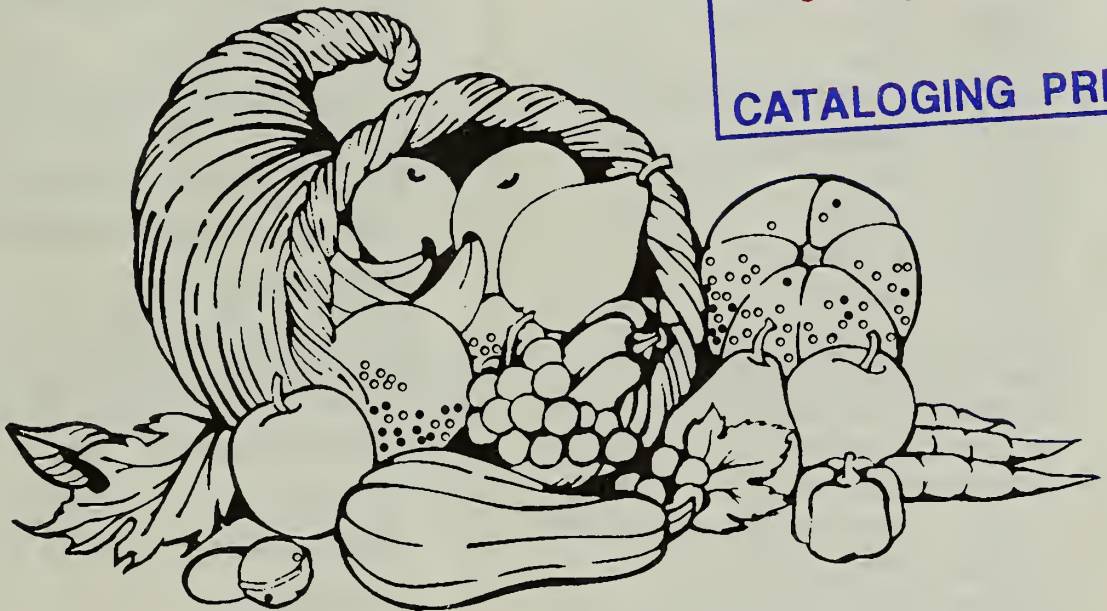
United States Standards for Grades of Table Grapes (European or Vinifera Type)

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CATALOGING PREP



United States Standards for Grades of Table Grapes
(European or Vinifera Type)¹
 (7 CFR Part 51)

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METRIC CONVERSION TABLE

51.913 Metric conversion table.

AUTHORITY: The provisions of this subpart issued under sections 203, 205, 60

¹ Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act, or with applicable State laws and regulations.

Stat. 1087, as amended, 1090 as amended; 7 U.S.C. 1622, 1624.

GRADES

§ 51.880 U.S. Extra Fancy Table.

"U.S. Extra Fancy Table" consists of bunches of well developed grapes of one variety, except when designated as assorted varieties, which are uniform in appearance, well colored, and which meet the following requirements:

(a) Basic requirements for berries:

- (1) Mature;
- (2) Firm;
- (3) Firmly attached to capstem;
- (4) Not weak;
- (5) Not shriveled at capstem;
- (6) Not shattered;
- (7) Not split or crushed;
- (8) Not wet.

(b) Basic requirements for bunches:

- (1) Fairly well filled;
- (2) Not excessively tight for the variety.

(c) Basic requirements for stems:

- (1) Well developed and strong;
- (2) Not dry and brittle;
- (3) At least yellowish-green in color except for Cardinal, Robin, Exotic, and Beauty Seedless varieties.

(d) Berries free from:

- (1) Decay;
- (2) Waterberry;
- (3) Sunburn;
- (4) Almeria Spot.

(e) Stems free from:

- (1) Mold;
- (2) Decay.

(f) Berries not damaged by:

- (1) Any other cause.

(g) Bunches not damaged by:

- (1) Shot berries;
- (2) Dried berries;

- (3) Other defective berries;
- (4) Trimming away of defective berries;

(5) Any other cause.

(h) Stems not damaged by:

(1) Freezing;

(2) Any other cause.

(i) Size:

(1) For berries: Exclusive of shot berries and dried berries, not less than 90 percent, by count, of the berries on each bunch shall have the minimum diameters indicated for varieties as follows:

(i) Ribier, Cardinal, Robin, Exotic, Queen, Italia Muscat, and other similar varieties thirteen-sixteenths of an inch.

(ii) Other varieties eleven-sixteenths of an inch.

(2) For Bunches:

(i) Not less than one-half pound.

(j) For tolerances see § 51.886.

§ 51.881 U.S. Extra Fancy Export.

“U.S. Extra Fancy Export” consists of grapes which meet the requirements for U.S. Extra Fancy Table and, in addition, meet the packaging requirements set forth in § 51.912.

§ 51.882 U.S. Fancy Table.

“U.S. Fancy Table” consists of bunches of well developed grapes of one variety, except when designated as assorted varieties, which are at least reasonably well colored, uniform in appearance when so specified in connection with the grade, and which meet the following requirements:

(a) Basic requirements for berries:

(1) Mature;

(2) Firm;

(3) Firmly attached to capstem;

(4) Not weak;

(5) Not shriveled at capstem;

(6) Not shattered;

(7) Not split or crushed;

(8) Not wet.

(b) Basic requirements for bunches:

(1) Fairly well filled;

(2) Not excessively tight for the variety.

(c) Basic requirements for stems:

(1) Well developed and strong;

(2) Not dry and brittle.

(d) Berries free from:

(1) Decay;

(2) Waterberry;

(3) Sunburn;

(4) Almeria Spot.

(e) Stems free from:

(1) Mold;

(2) Decay.

(f) Berries not damaged by:

(1) Any other cause.

(g) Bunches not damaged by:

(1) Shot berries;

(2) Dried berries;

(3) Other defective berries;

(4) Trimming away of defective berries;

(5) Any other cause.

(h) Stems not damaged by:

(1) Freezing;

(2) Any other cause.

(i) Size:

(1) For berries: Exclusive of shot berries and dried berries, the following percentages, by count, of the berries on each bunch shall have the minimum diameters indicated for varieties as follows:

(i) For Ribier, Cardinal, Robin, Exotic, Queen, Italia Muscat, and other similar varieties, 90 percent shall be at least twelve-sixteenths of an inch;

(ii) For Thompson Seedless, Perlette, Delight, Beauty Seedless, Superior Seedless, Flame Seedless and other seedless varieties, 75 percent shall be at least ten-sixteenths of an inch; and,

(iii) For other varieties 90 percent shall be at least ten-sixteenths of an inch.

(2) For bunches:

(i) Not less than one-fourth pound.

(j) For tolerances see § 51.886.

§ 51.883 U.S. Fancy Export.

"U.S. Fancy Export" consists of grapes which meet the requirements for U.S. Fancy Table, except that bunches shall weigh not less than one-half pound, and in addition meet the packaging requirements set forth in § 51.912.

§ 51.884 U.S. No. 1 Table.

"U.S. No. 1 Table" consists of bunches of well developed grapes of one variety, except when designated as assorted varieties, which are at least fairly well colored, uniform in appearance when so specified in connection with the grade, and which meet the following requirements:

(a) Basic requirements for berries:

- (1) Mature;
- (2) Firm;
- (3) Firmly attached to capstem;
- (4) Not weak;

(5) Not materially shriveled at capstem;

- (6) Not shattered;
- (7) Not split or crushed;
- (8) Not wet.

(b) Basic requirements for bunches:

(1) Not straggly.

(c) Basic requirements for stems:

(1) Not weak, or dry and brittle.

(d) Berries free from:

- (1) Decay;
- (2) Waterberry;
- (3) Sunburn.

(e) Stems free from:

- (1) Mold;
- (2) Decay.

(f) Berries not damaged by:

(1) Any other cause.

(g) Bunches not damaged by:

- (1) Shot berries;
- (2) Dried berries;
- (3) Other defective berries;

(4) Trimming away of defective berries;

(5) Any other cause.

(h) Stems not damaged by:

- (1) Freezing;
- (2) Any other cause.

(i) Size:

(1) For berries: Exclusive of shot berries and dried berries, 75 percent, by count, of the berries on each bunch shall have the minimum diameters indicated for varieties as follows:

(i) Thompson Seedless, Perlette, Delight, Beauty Seedless, Superior Seedless, Flame Seedless and other seedless varieties nine-sixteenths of an inch.

(ii) Other varieties ten-sixteenths of an inch.

(2) For bunches:

(i) Not less than one-fourth pound.

(j) For tolerances see § 51.886.

§ 51.885 U.S. No. 1 Institutional.

The requirements for this grade are the same as for "U.S. No. 1 Table" except for bunch size. In this grade bunch size shall not be less than two ounces and not greater than five ounces. Additionally, not less than 95% of the containers in the lot must be legibly marked "Institutional Pack."

TOLERANCES

§ 51.886 Tolerances.

(a) No tolerances are provided in these standards for grapes which fail to meet the applicable maturity requirements other than the allowances specified in § 51.888 or in the sampling and testing procedures of State maturity regulations.

(b) In order to allow for variations incident to proper grading and handling in each of the foregoing grades, tolerances, by weight, other than for maturity, are provided as set forth in Tables I and II.

Table I — Tolerances at Shipping Point¹
[Percent]

Factor	U.S. Extra Fancy table	U.S. Fancy table	U.S. No 1 table
(A) For bunches failing to meet color requirements	10	10	10
(B) For bunches failing to meet requirements for minimum diameter of berries	10	10	10
(C) For bunches failing to meet stem color requirements	10		
(D) For offsize bunches and for bunches and berries failing to meet the remaining requirements for the grade	8	8	8
Including in (D):			
(a) For serious damage	2	2	2
And, including in (a):			
(i) For decay	½ of 1	½ of 1	½ of 1

Table II — Tolerances En Route or at Destination

(A) For bunches failing to meet color requirements	10	10	10
(B) For bunches failing to meet requirements for minimum diameter of berries	10	10	10
(C) For bunches failing to meet stem color requirements	10		
(D) For offsize bunches and for bunches and berries failing to meet the remaining requirements for the grade	12	12	12
Including in (D):			
(a) For permanent defects	8	8	8
(b) For serious damage	4	4	4
And, including in (b):			
(i) For serious damage by permanent defects	2	2	2
(ii) For decay	1	1	1

¹ Shipping point, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores or overseas shipment, or, in the the case of shipments from outside the continental United States, the port of entry into the United States.

APPLICATION OF TOLERANCES

§ 51.887 Application of tolerances.

The contents of the individual packages in any lot, based on sample inspection, are subject to the following limitations: *Provided*, That the averages for the entire lot are within the tolerances specified for the grade:

(a) For tolerances of 10 percent or more, individual packages may contain not more than one and one-half times the specified tolerance.

(b) For a tolerance of less than 10 percent, individual packages may contain not more than double the specified tolerance.

§ 51.888 Maturity requirements.

(a) In the case of grapes grown in Arizona or California, "mature" means grapes in any lot shall meet the maturity

requirements for the variety as set forth in the applicable State Agricultural Laws and Regulations in effect on the date or dates specified in this section.

(1) Applicable Arizona maturity regulations, contained in Title 3, Chapter 7, Article 1, section R3-7-104, subsection 7d through f of the 1986 Arizona Official Compilation of Administrative Rules and Regulations, Arizona Fruit and Vegetable Standardization, are as follows:

(i) *Arizona 7d*. In all varieties the testing of soluble solids in the juice shall be determined by the hand refractometer.

(ii) *Arizona 7e*. The term "mature" shall be applied when the following conditions exist in each bunch of grapes tested:

(A) *Arizona 7e (i)*. All varieties shall be considered mature if the juice contains soluble solids equal to, or in excess of 18 parts to every part of acid contained in the juice (the acidity of the juice to be calculated as tartaric acid without water of crystallization.)

(B) *Arizona 7e (ii)*. Cardinals and Robins; at least 14½ percent soluble solids.

(C) *Arizona 7e (iii)*. Perlettes; at least 15 percent soluble solids.

(D) *Arizona 7e (iv)*. Thompson Seedless and Flame Seedless varieties; at least 16 percent soluble solids.

(E) *Arizona 7e (v)*. Exotic variety; at least 14 percent soluble solids.

(iii) *Arizona 7f*. The maturity of varieties named in this regulation shall be determined by testing the juice of entire bunches representative of the least mature grapes in any container and consisting of not less than 10 percent by weight of the contents of the container; however, no lot of grapes shall be considered as failing to meet the maturity requirements of this section because the sample of grapes from one container fails to meet the required test.

(2) California maturity regulations are contained in the 1981 Administrative Code — Title 3 of California, Group 4, Article 25, and are incorporated by reference under 5 U.S.C. 552(a) and 1 CFR Part 51.2

(b) Grapes subject to U.S. import regulations shall meet the maturity requirements specified in such regulations.

(c) Grapes produced in States other than Arizona or California, or grapes imported from countries outside the United States during periods in which U.S. import regulations do not apply, shall meet the minimum percentage of soluble solids set forth in Table III as determined by use of a standard hand refractometer.

Table III

Variety	Percent of soluble solids
Muscat	17.5
All varieties not listed in this table	16.5
Cardinal, Emperor, Perlette, Ribier, Olivette Blanche, Rish Baba, Red Malaga, and similar varieties	15.5

(1) The minimum percentage of soluble solids for any lot shall be determined from the juice of at least 10 percent, by weight, of whole bunches of the least mature grapes in that container which appears to have the least mature grapes. No lot shall be considered as failing to meet these requirements unless samples from two containers which appear to have the least mature grapes test below the required percentage of soluble solids.

DEFINITIONS

§ 51.889 Well developed grapes.

“Well developed grapes” means grapes which are not abnormally small for the variety.

§ 51.890 One variety.

“One variety” means that the grapes show similar varietal characteristics.

§ 51.891 Uniform in appearance.

“Uniform in appearance” means that not more than one-tenth of the containers in any lot show sufficient variation in color or size of berries to materially detract from the appearance of the contents of the individual container, and the stems are well developed and strong.

§ 51.892 Color terms.

The color terms “well colored,” “reasonably well colored,” and “fairly well colored” are defined in Table IV.

² Copies of these regulations may be examined at the Office of the Federal Register Information Center, Room 8401, 1100 L Street, N.W., Washington, D.C. 20408. They may be requested from the California Department of Food and Agriculture, Fruit and Vegetable Quality Control, Standardization Section, Room A-265, 1220 N Street, Sacramento, CA 95814 or Arizona Fruit and Vegetable Standardization, 2720 West Weldon, Phoenix, AZ 85007.

Table IV

Color terms.	Black varieties	Red varieties	White varieties
Well colored (U.S. Extra Fancy).	Each bunch shall have not less than 95 percent, by count, of berries showing good characteristic color.	Each bunch shall have not less than 75 percent, by count, of berries showing good characteristic color.	No requirement.
Reasonably well colored (U.S. Fancy).	Each bunch shall have not less than 85 percent, by count, of berries showing good characteristic color.	Each bunch shall have not less than 66 $\frac{2}{3}$ percent, by count, of berries showing good characteristic color ¹ except the Tokay and Cardinal varieties shall have not less than 75 percent, by count, of berries showing characteristic color. ²	No requirement.
Fairly well colored (U.S. No. 1).	Each bunch shall have not less than 75 percent, by count, of berries showing characteristic color. ²	Each bunch shall have not less than 60 percent, by count, of berries showing characteristic color. ²	No requirement.

¹ Good characteristic color for black varieties means purple to black except that Ribier or similar varieties of grapes shall have at least two-thirds of the surface of the berry showing purple to black color.

For red varieties good characteristic color means at least two-thirds of the surface of the berry is light red through dark red color; except, for the Tokay variety pink through dark red, and for the Cardinal variety light red through purple shall be permitted.

² Characteristic color for black varieties means reddish-purple to black except that Ribier or similar varieties of grapes shall have at least two-thirds of the surface of the berry showing reddish-purple to black color.

For red varieties characteristic color means at least two-thirds of the surface of the berry is pink to dark red; except, for the Tokay variety light pink through dark red and for the Cardinal variety light pink through purple color shall be permitted.

§ 51.893 Firm.

"Firm" means that the berry does not yield more than slightly to moderate pressure and is not flabby or wilted.

§ 51.894 Weak.

"Weak" means that the individual berries are somewhat translucent, watery and soft, may have relatively low sugar content, inferior flavor, or are of poor keeping quality.

§ 51.895 Shriveled at capstem.

"Shriveled at capstem" means that the berry shows more than slight wrinkling of the skin surrounding the capstem.

§ 51.896 Shattered.

"Shattered" means that the berry is separated from the bunch and may or may not have the capstem attached.

§ 51.897 Wet.

"Wet" means that the grapes are wet from moisture from crushed, leaking, or decayed berries or from rain. Grapes

which are moist from dew or other moisture condensation such as that resulting from removing grapes from a refrigerator car or cold storage to a warmer location shall not be considered as wet.

§ 51.898 Decay.

"Decay" means any soft breakdown of the flesh or skin of the berry resulting from bacterial or fungus infection. Slight surface development of green mold (*Cladosporium*) shall not be considered decay.

§ 51.899 Waterberry.

"Waterberry" means a watery, soft, or flabby condition of the berry. Affected berries are low in sugar content, have tender skins, and are easily crushed. This is an advanced or more pronounced stage of the condition referred to as "weak."

§ 51.900 Sunburn.

"Sunburn" means injury to the berry caused by exposure to the sun, including "sulphur burn," usually occurring as a sunken and discolored or dried area on the exposed surface.

§ 51.901 Damage.

"Damage" means any specific defect described in this section; or an equally objectionable variation of any one of these defects, or any other defect, or any combination of defects which materially detracts from the appearance, or the edible or marketing quality of the individual berry, the appearance of the bunch as a whole, or the marketing quality of the stems.

(a) The following shall be considered as damage to the individual berry:

(1) Scarring such as that caused by thrips, mildew, rubs, and similar injuries when materially detracting from the appearance of the berry;

(2) Discoloration when any light brown, tan, or darker discoloration of the skin materially detracts from the appearance of the berry: *Provided*, That "sunkissed" berries of the white Malaga variety which show discoloration of amber or light brown color shall not be considered as damaged. "Buckskin" berries of the Tokay variety, and similar injury to other varieties, shall be considered as damaged by discoloration;

(3) Heat when the flesh of the berry is affected;

(4) Almeria Spot when any spot is distinctly sunken or dark in color;

(5) Mildew when active powdery mildew is present;

(6) Freezing when the berry is frozen or when the flesh of the berry is affected by freezing;

(7) Insect injury when penetrating the skin of the berry or when there is noticeable insect infestation on the bunch; when mealybug residue or aphid honeydew are present in noticeable amounts; or when leafhopper residue materially detracts from the appearance of the individual berry or of the bunch.

(b) The following shall be considered as damage to stems:

(1) Active powdery mildew or any other disease when present on the stems to the extent that it detracts from the appearance of the bunch or when scars caused by mildew or other disease constrict or weaken any part of the main or lateral stems; and,

(2) Freezing when the stems are frozen or the capstems are swollen or dried, or when the main or lateral stems are water-soaked and limp, or dried, as a result of freezing.

§ 51.902 Fairly well filled.

"Fairly well filled" means that the berries are reasonably closely spaced on main and lateral stems and that the bunch is not very loose or stringy.

§ 51.903 Excessively tight.

"Excessively tight" means that the berries are so wedged together that the bunch is extremely compact for the variety and resulting distorted berries materially detract from the appearance of the bunch.

§ 51.904 Shot berries.

"Shot berries" means very small berries resulting from insufficient pollination, usually seedless in those varieties which normally develop seeds.

§ 51.905 Dried berries.

"Dried berries" means berries which are dry and shriveled to the extent that practically no moisture is present.

§ 51.906 Well developed and strong.

"Well developed and strong" means that the main and lateral stems are firm, fibrous, and pliable; not distinctly immature or spindly or threadlike at time of packing.

§ 51.907 Diameter.

"Diameter" means the greatest dimension of the berry taken at right angles to a line running from the stem to the blossom end.

§ 51.908 Serious damage.

"Serious damage" means any defect or any combination of defects which seriously detracts from the appearance, or the edible or marketing quality of the grapes and includes berries which are split, crushed, wet, affected by decay or waterberry, or affected by heat or freezing. Grapes which show healed cracks at the blossom end shall not be considered as seriously damaged.

§ 51.909 Materially shriveled at capstem.

“Materially shriveled at capstem” means that the skin of the berry is definitely wrinkled adjacent to the capstem and the surface is materially sunken.

§ 51.910 Straggly.

“Straggly” means that the berries are so widely spaced on main and lateral stems that the bunch is distinctly open or very stemmy or stringy in structure.

§ 51.911 Container.

“Container” as used in these standards shall, for the purposes of determining maturity and other factors of grades of grapes in packages containing 5 pounds or less, mean the master container in which the individual packages are packed for shipment.

§ 51.912 Export.

When designated as Export, grapes shall be packed with any of the customary protective materials such as cushions, liners, or wraps, or properly packed in sawdust or granulated cork. The so-called “semi-sawdust packs” which are cushioned and/or covered with sawdust are not approved as protective packaging for export.

METRIC CONVERSION TABLE

§ 51.913 Metric conversion table.

Inches	Millimeters (mm)
3/16 equals	4.8
8/16 equals	14.3
10/16 equals	15.9
11/16 equals	17.5
12/16 equals	19.1
13/16 equals	20.6
14/16 equals	22.2
15/16 equals	23.8
1 equals	25.4
Pounds	Grams
1/4 equals	113.4
1/2 equals	226.8
3/4 equals	340.2
1 equals	453.6
2 equals	907.2
3 equals	1,360.8
4 equals	1,814.4
5 equals	2,268.0
10 equals	4,536.0

Table Grape Maturity Chart

Percent Soluble Solids	Arizona Agricultural Code ¹	California Agricultural Code ²	U.S. Standards for Origins Outside California & Arizona ³
17.5		All white varieties Muscat type. Malaga-NW San Gorgonio Pass.	Muscat
17.0		Thompson Seedless-NW San Gorgonio Pass.	
16.5		All varieties not listed in this column.	All varieties not listed in this column
16.0	Thompson Seedless Flame Seedless		
15.5		Beauty Seedless-SE San Gorgonio Pass. Cardinal, Berenda Red, Imperial Cardinal, Richards Black, Robin - NW San Gorgonio Pass. <div> <div>Burger</div> <div>Emperor</div> <div>Gros Colman</div> <div>Bleu Grau</div> <div>Drodelabi</div> <div>Red Malaga</div> <div>Khalili</div> <div>Persian 23</div> </div> <div> <div>Dizmar</div> <div>Delight</div> <div>Fresno Beauty</div> <div>Servian Blue</div> <div>Pierce</div> <div>Concord</div> <div></div> <div></div> </div> <div> <div>Dattier de Beyrouth</div> <div>Pierce Isabella</div> <div>Isabella Regia</div> <div>Superior Seedless</div> <div>CA. Concord</div> <div>Perlette</div> <div>Queen</div> <div>Blackrose</div> </div>	Cardinal, Emperor, Perlette, Ribier, Olivette Blanche, Rish Baba, Red Malaga, and similar varieties.
15.0	Perlette		
14.5	Cardinal, Robin	Cardinal, Robin, Berenda Red, Imperial Cardinal, Richards Black-SE San Gorgonio Pass. Ladyfinger, Rish Baba, Khandahar, Olivette Blanche.	
14.0	Exotic	Exotic.	

¹ Varieties listed, when tested by refractometer, are mature when meeting or exceeding the specified soluble solids. All varieties, regardless of refractometer reading, are mature at 18 to 1 or higher titration ratio.

² All varieties, when tested by refractometer, are mature when meeting or exceeding the specified soluble solids. Thompson Seedless at 15 percent or more refractometer reading, Perlette or Superior Seedless at 14 percent or more, and all other varieties, regardless of refractometer reading are mature at 20 to 1 or higher titration ratio. Thompson Seedless below 15, and Perlette or Superior Seedless below 14 percent refractometer reading may not be titrated and are immature.

³ All varieties, when tested by refractometer, are mature when meeting or exceeding the specified soluble solids.

Dated: April 12, 1991.
Kenneth C. Clayton,
Acting Administrator.

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